Amanda Kesler

Prof. Scott Krummenacher

Sustainable Cities

12/18/2025

Graduate Student Project:

Disaster Resilient St. Louis: A Canopy Project

Project Narrative and Introduction:

Over the course of the semester and across a variety of courses in and outside Sam Fox School, I have targeted my research and projects around response to the May 16th Tornado. In the core studio course for the landscape architecture program, I designed a public facing tree nursery project at Sherman Park grounded in key Sustainable Cities concepts. Volunteer labor and strategic public institutional partnerships form backbone of the project, making its alignment within a light-green institutionalist framework as public entities coordinate and support key community-led action. The urban league is situated almost across the street from Sherman Park and future partnerships with the Wohl Center in Sherman Park may prove ideal conditions for long term strategic partnerships for future social and ecological recovery/strengthening in the aftermath of the disaster.

Project Outcomes:

The tree nursery system uses a simplified and technology driven pot-in-pot design model that increases accessibility, and reduces the heavy physical labor and technical barriers associated with early tree nurseries. The park is organized in three zonal and operational areas. One serves as an outdoor repair café model in which residents use hand truck inspired furniture workstations to learn new skills to repair or create broken household and outdoor items such as front porch steps and outdoor potted pollinator plants. This area is focused on generating material agency and capacity building as skilled volunteers host semi-formal construction skill training.

The nursery area is divided between resident adoption and city led replanting efforts. Residents and community members are invited to adopt trees grown on site with the promise that stewardship here leads to private plantings on their own properties. The city owned trees become city easement and park plantings to eventually stitch together the missing canopy and densify the canopy that didn’t exist before. This dual strategy promotes ecological literacy of the function of street trees as infrastructure and provides accessible participation in post-disaster recovery. This was a key community-based request; How can

I replant my street or neighborhood?. It was a common question posed by residents across the affected area in the aftermath of the tornado and this project seeks to respond adequately.

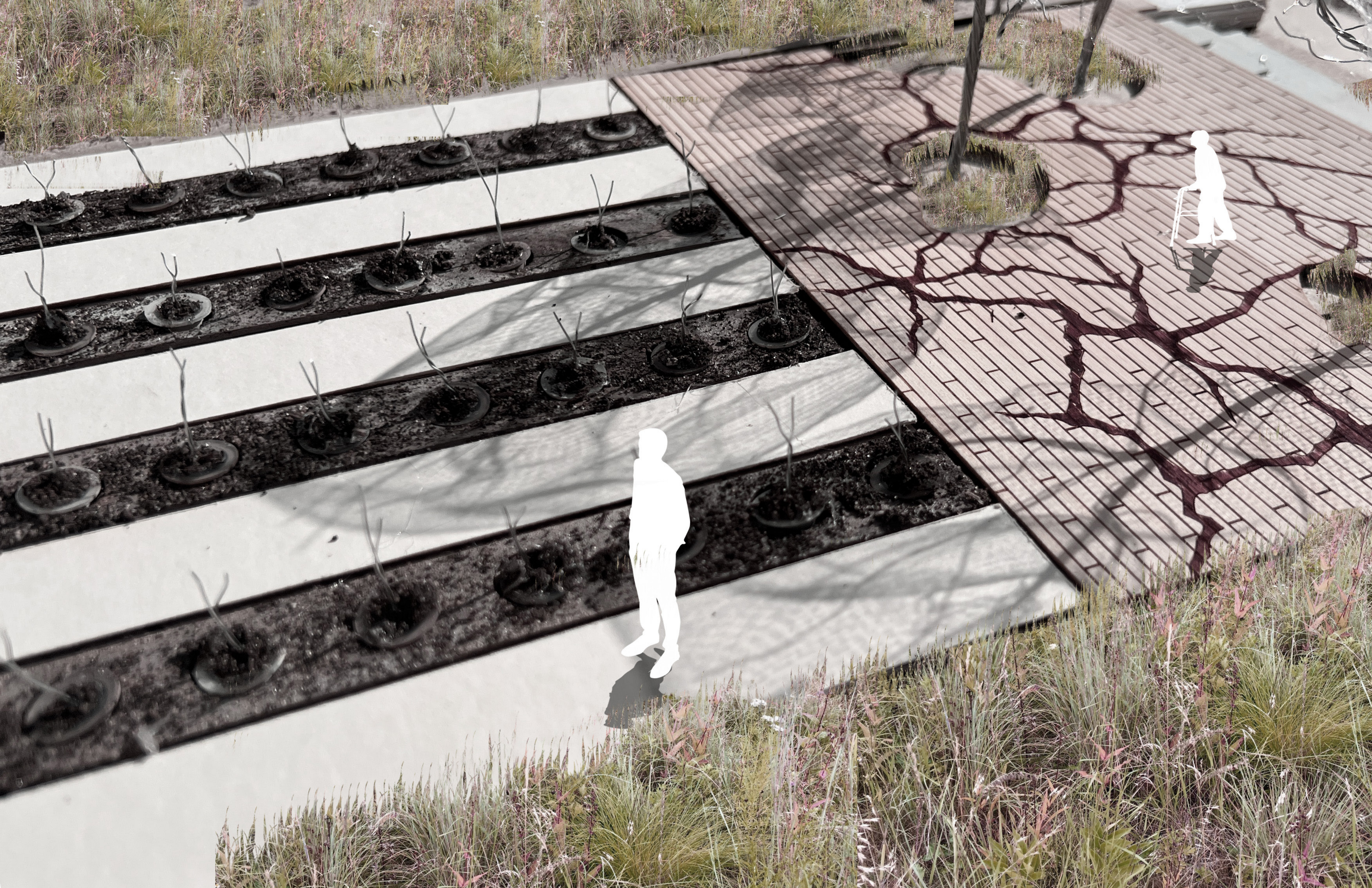
The final zonal area is the designed shade sanctuary, a place of respite, tranquility, and dignity for the trees that survived the tornado. Visitors use the hand-truck inspired furniture to create their own moments in shade, and this area of the park is strategically mobile-furniture-friendly so that visitors can make their own moments in shade.

Disaster Resilient St. Louis

Restoring the tree canopy is central to disaster resilient city frameworks because it shifts recovery from short term replacement towards long-term risk reduction. A robust canopy mitigates extreme heat, reduces stormwater runoff, and stabilizes soils, all of which lessen the severity of future storm impacts. Most of North St. Louis experiences a lack of street tree canopy that existed before the tornado, and it is even worse after the storm. St. Louis is expected to experience a dramatic increase in extreme heat days in the coming decades. Providing a method to replant the city for a long-term reduction in extreme heat days, and targeting the most vulnerable areas that experience extreme heat is one of the key target efforts in the Sendai Framework for disaster resilient cities. Just as importantly, the nursery creates redundance within the urban forestry system by establishing local growing capacity, reducing reliance on external supply chains after disasters. Through this integration of ecological infrastructure, institutional coordination, and community stewardship, the project aligns canopy restoration with adaptive resilience rather than a reactive response.

Conclusion:

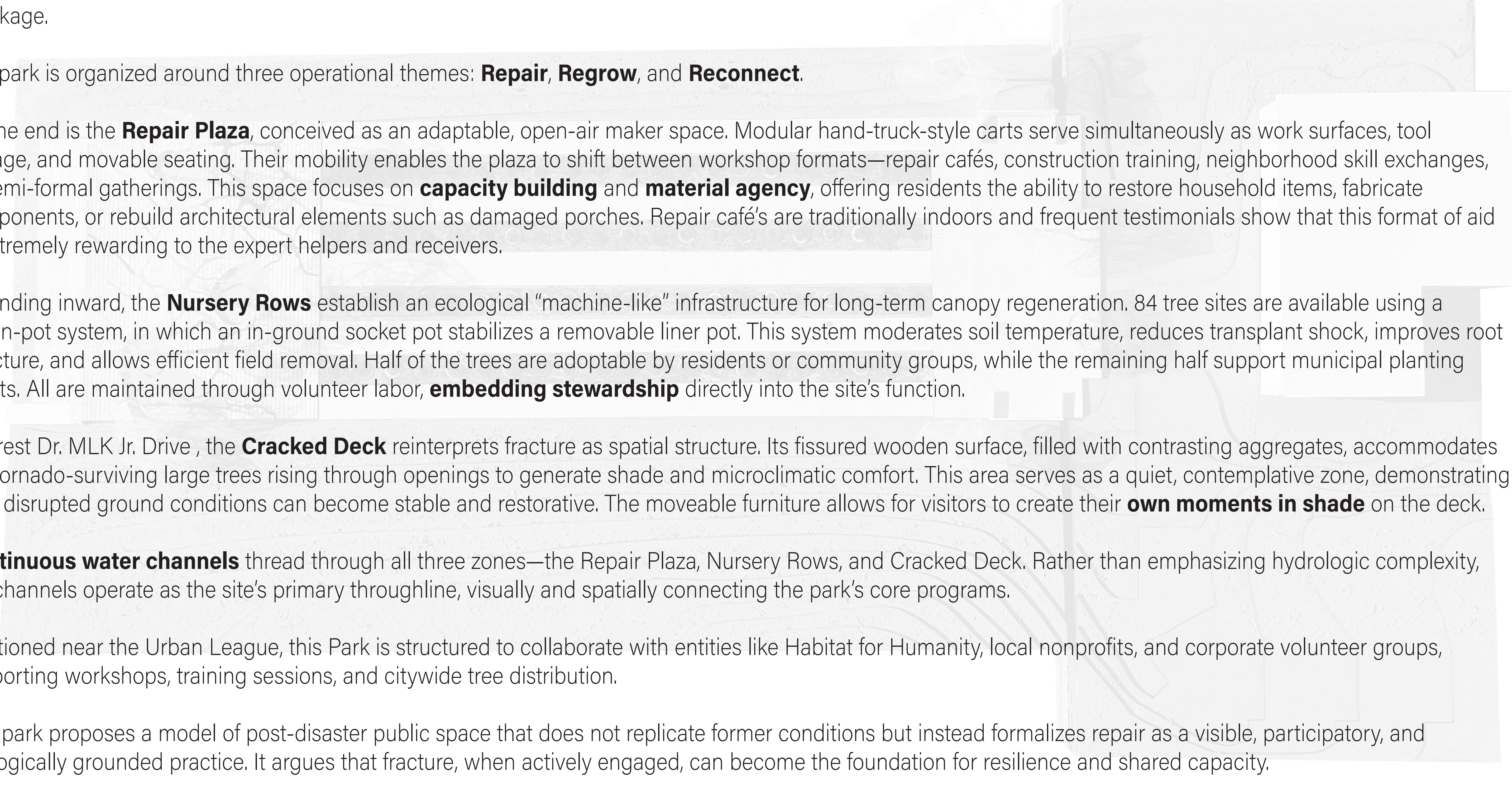
This canopy restoration project demonstrates a model of post disaster recovery. The city of St. Louis can leverage this opportunity the advance broader sustainable city goals rather than attempt to restore the pre-existing conditions. By embedding a public facing nursery within an existing park, the design offers integration with institutional coordination and community stewardship into a single system that supports ecological infrastructure as long term climate resilience. Operating within a light-green institutionalist framework, the project targets volunteer engagement with the governance support of both City Forestry expertise and the Urban League to deploy disaster resilience. This civic infrastructure advances resilience, sustainability and shade equity simultaneously and can reduce dependence on slower, external interventions.



“KINTSUGI” PARK

REPAIR, REGROW, RECONNECT

Amanda Kesler | L. Irene Compadre | 7110 Studio V 2025



“KINTSUGI” Park is a post-tornado recovery landscape for North St. Louis, shaped by the events of May 16, 2025 and informed by the Japanese philosophy of **wabi sabi**. This framework recognizes impermanence, values incremental change, and positions repair as both an aesthetic and civic act. Rather than masking damage, the design makes processes of repair visible, similar to how kintsugi highlights the fracture lines of ceramics with gold to acknowledge, rather than conceal, a history of breakage.

The park is organized around three operational themes: **Repair**, **Regrow**, and **Reconnect**.

At one end is the **Repair Plaza**, conceived as an adaptable, open-air maker space. Modular hand-truck-style carts serve simultaneously as work surfaces, tool storage, and movable seating. Their mobility enables the plaza to shift between workshop formats—repair cafés, construction training, neighborhood skill exchanges, or semi-formal gatherings. This space focuses on **capacity building** and **material agency**, offering residents the ability to restore household items, fabricate components, or rebuild architectural elements such as damaged porches. Repair café’s are traditionally indoors and frequent testimonials show that this format of aid is extremely rewarding to the expert helpers and receivers.

Extending inward, the **Nursery Rows** establish an ecological “machine-like” infrastructure for long-term canopy regeneration. 84 tree sites are available using a pot-in-pot system, in which an in-ground socket pot stabilizes a removable liner pot. This system moderates soil temperature, reduces transplant shock, improves root structure, and allows efficient field removal. Half of the trees are adoptable by residents or community groups, while the remaining half support municipal planting efforts. All are maintained through volunteer labor, **embedding stewardship** directly into the site’s function.

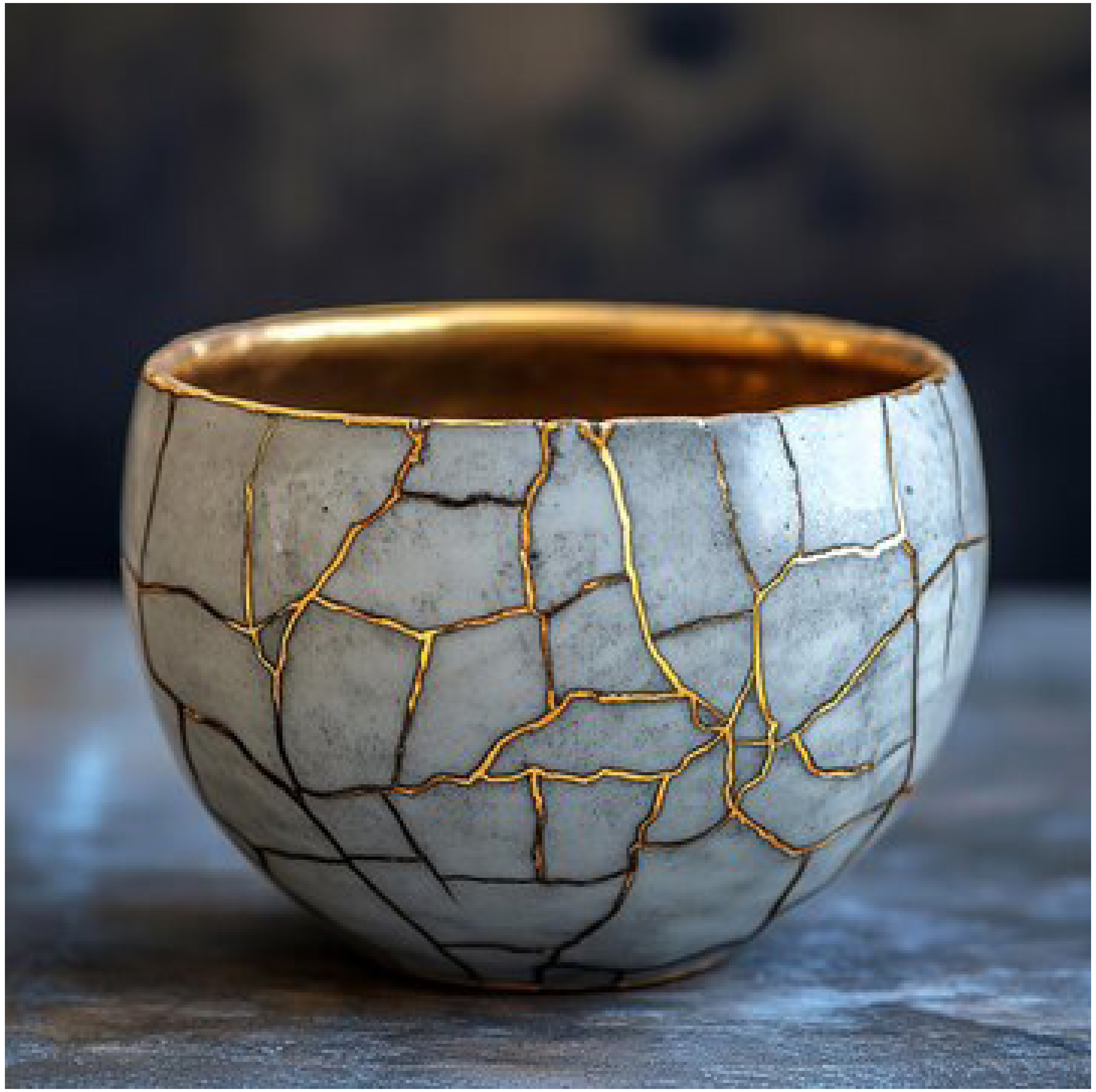
Nearest Dr. MLK Jr. Drive , the **Cracked Deck** reinterprets fracture as spatial structure. Its fissured wooden surface, filled with contrasting aggregates, accommodates the tornado-surviving large trees rising through openings to generate shade and microclimatic comfort. This area serves as a quiet, contemplative zone, demonstrating how disrupted ground conditions can become stable and restorative. The moveable furniture allows for visitors to create their **own moments in shade** on the deck.

Continuous water channels thread through all three zones—the Repair Plaza, Nursery Rows, and Cracked Deck. Rather than emphasizing hydrologic complexity, the channels operate as the site’s primary throughline, visually and spatially connecting the park’s core programs.

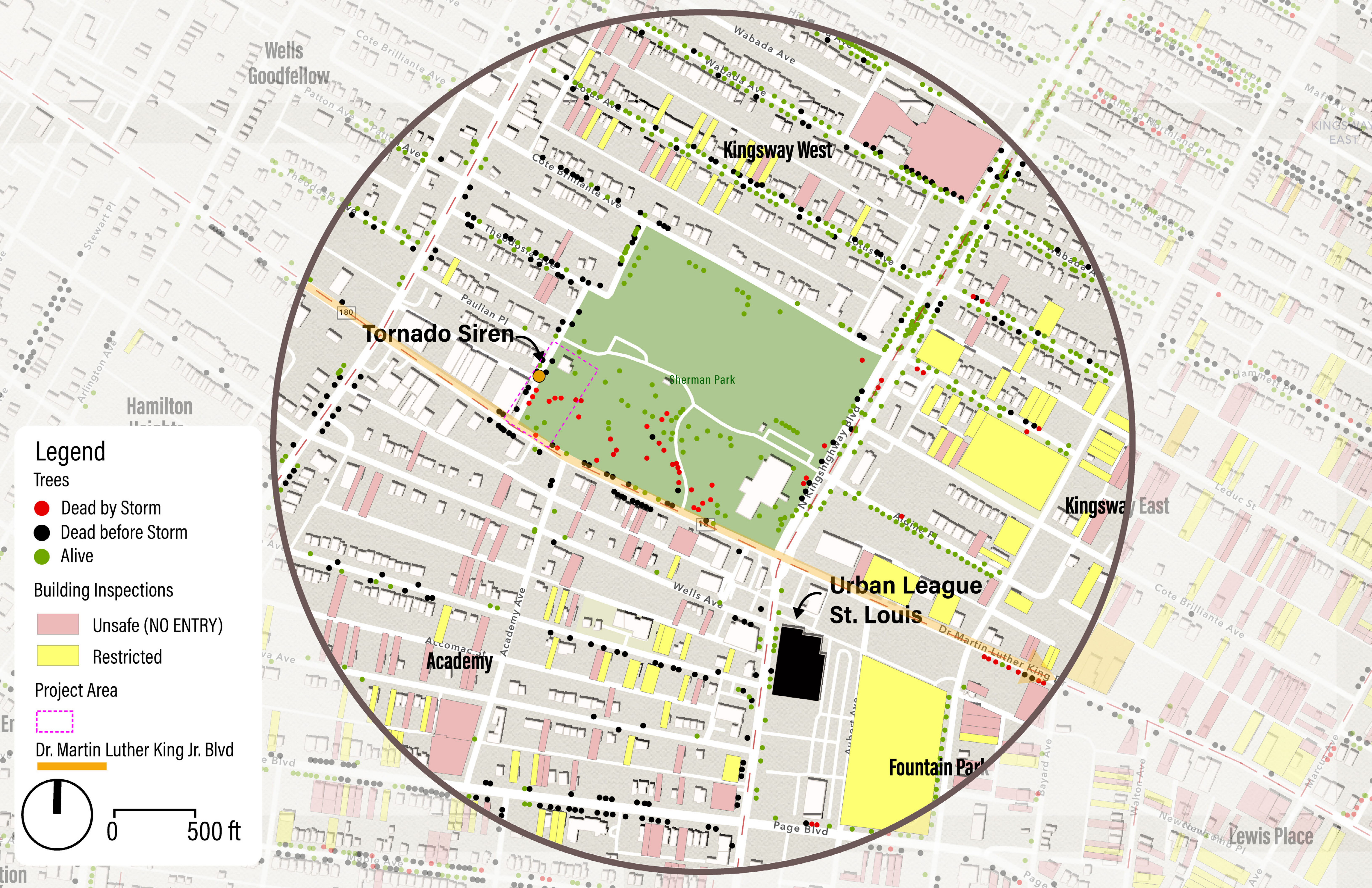
Positioned near the Urban League, this Park is structured to collaborate with entities like Habitat for Humanity, local nonprofits, and corporate volunteer groups, supporting workshops, training sessions, and citywide tree distribution.

This park proposes a model of post-disaster public space that does not replicate former conditions but instead formalizes repair as a visible, participatory, and ecologically grounded practice. It argues that fracture, when actively engaged, can become the foundation for resilience and shared capacity.

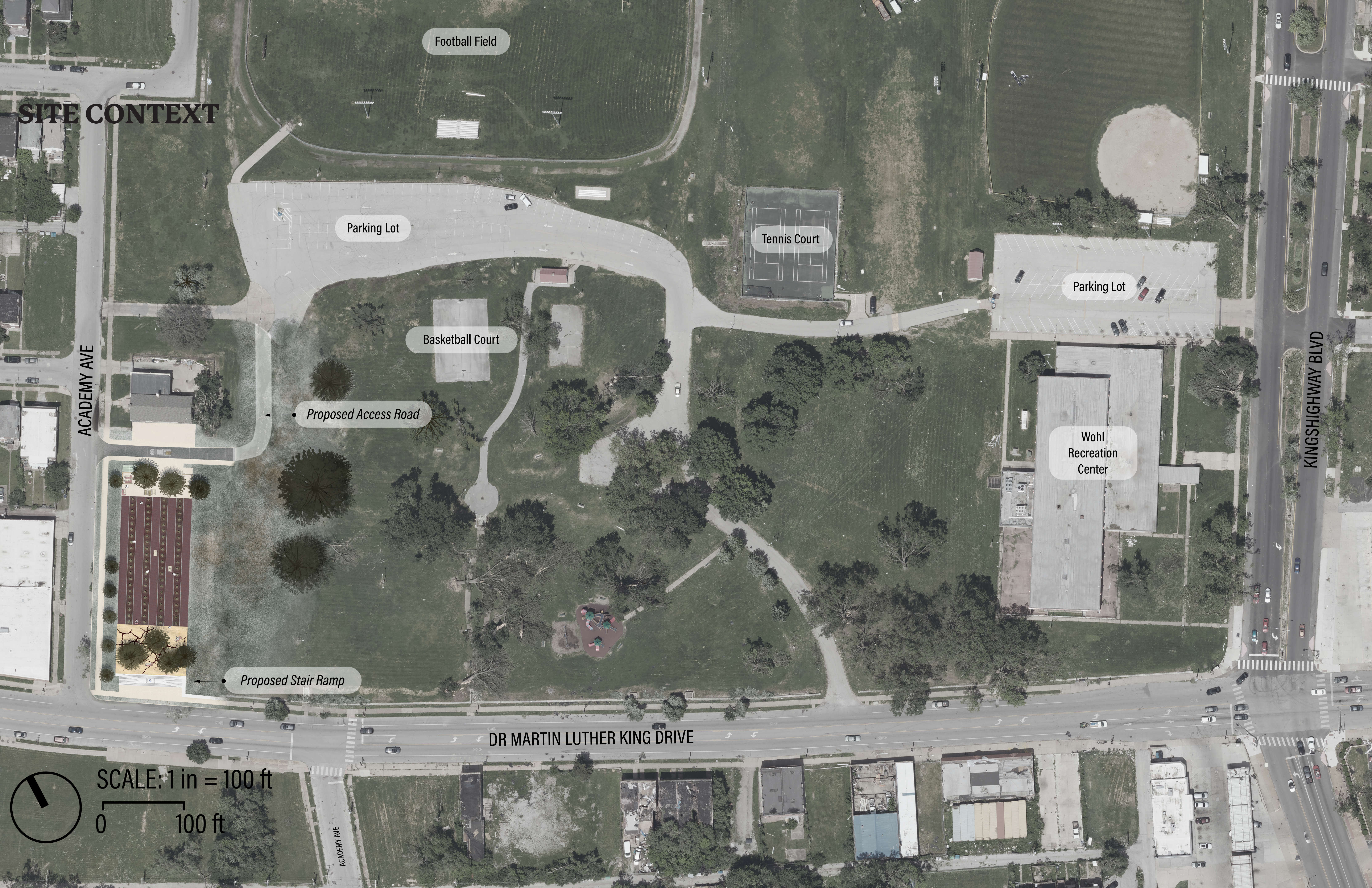
kintsugi (pottery)



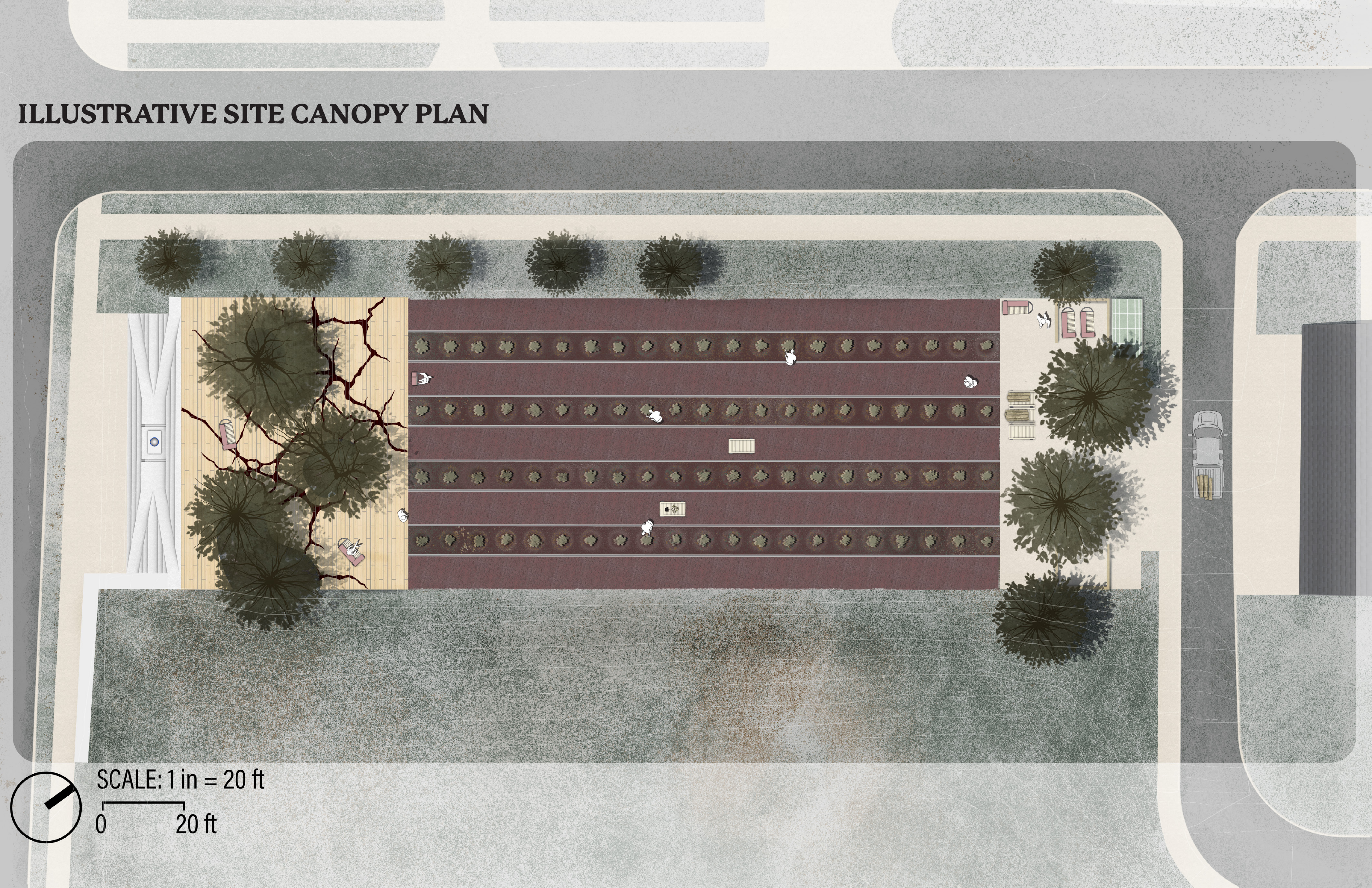
the Japanese art of repairing broken pottery by joining pieces back together and filling cracks with lacquer dusted with powdered gold, silver, or platinum, thereby highlighting the flaws in the mended object.


Wells Goodfellow
Cote Brilliante Ave
Patton Ave
Wabada Ave
Kingsway West
Northland Ave
Lotus Ave
Theodosia Ave
Paulian Pl
Tornado Siren
Sherman Park
N Kingshighway Blvd
Hamilton Heights
Kingsway East
Hammett Pl
Leduc St
Urban League St. Louis
Dr Martin Luther King
Wells Ave
Academy Ave
Academy
Aubert Ave
Fountain Park
Page Blvd
Bayard Ave
Walton Ave
Lewis Place
Newstead Ave
Arlington Ave
Stewart Pl
180
Legend
Trees
Dead by Storm
Dead before Storm
Alive
Building Inspections
Unsafe (NO ENTRY)
Restricted
Project Area
Dr. Martin Luther King Jr. Blvd
0
500 ft

SITE CONTEXT

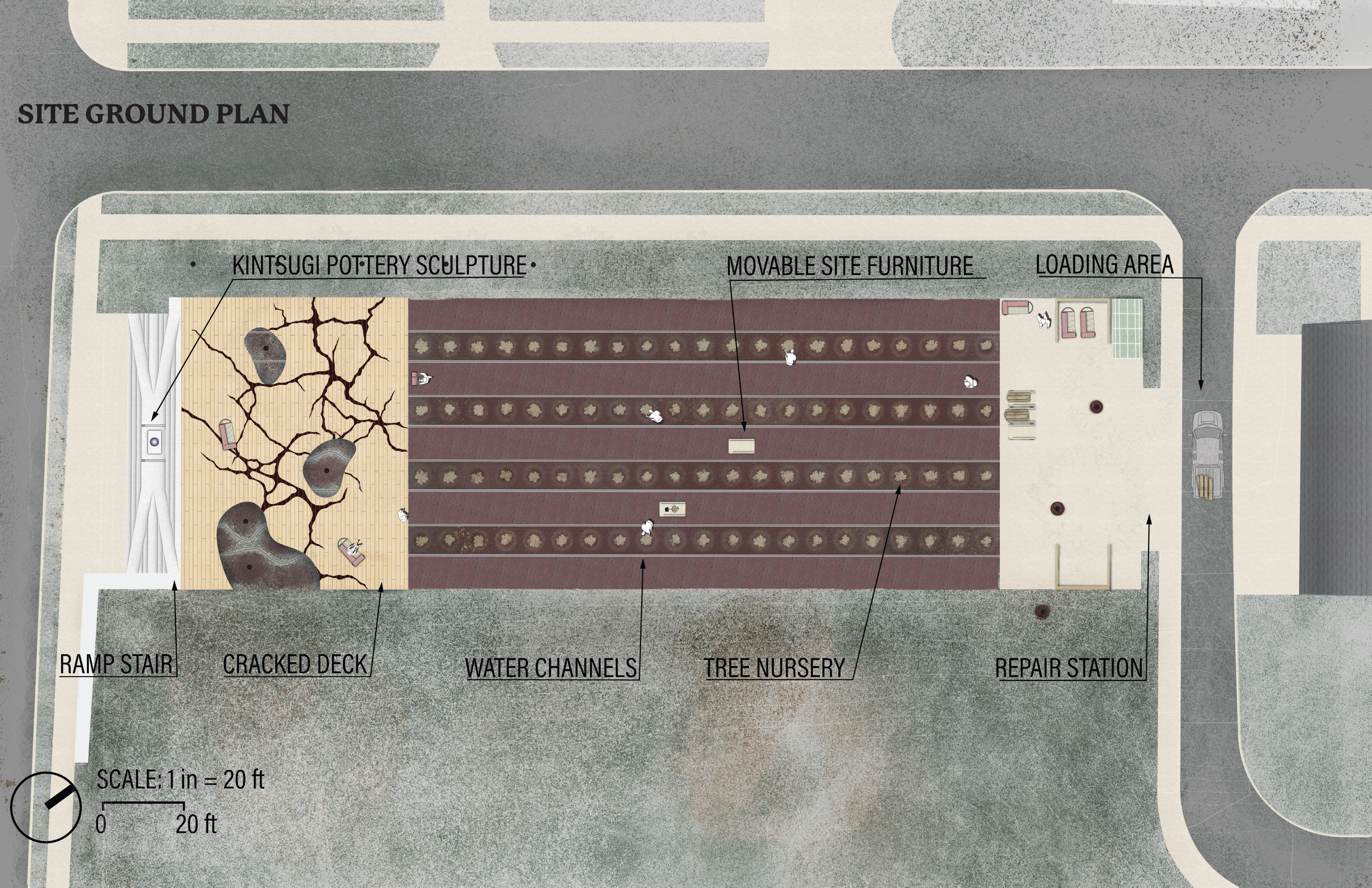

Football Field
Parking Lot
Tennis Court
Parking Lot
Basketball Court
Proposed Access Road
Wohl Recreation Center
ACADEMY AVE
KINGSHIGHWAY BLVD
Proposed Stair Ramp
DR MARTIN LUTHER KING DRIVE
SCALE: 1 in = 100 ft
0
100 ft
ACADEMY AVE

ILLUSTRATIVE SITE CANOPY PLAN

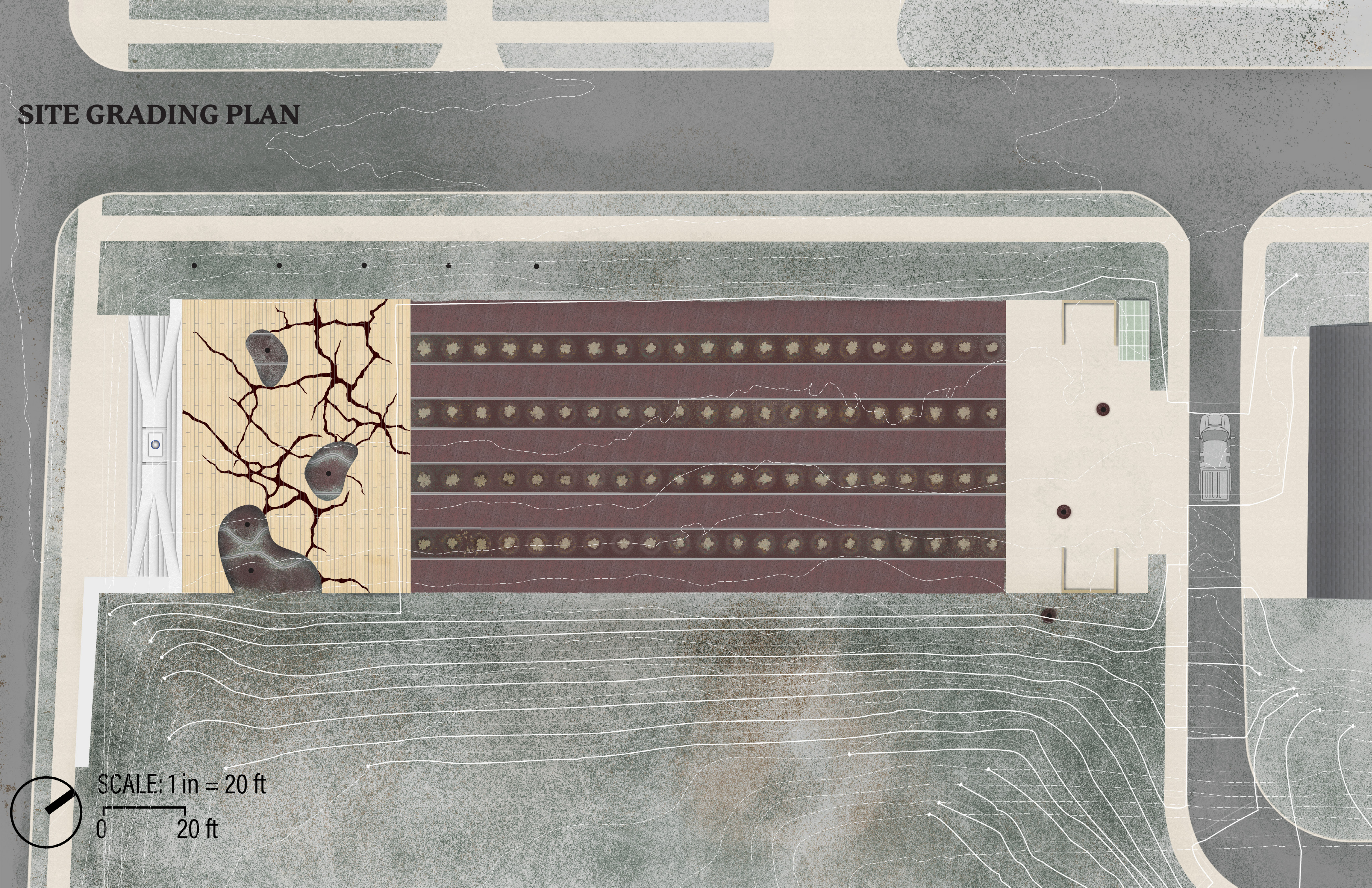


SCALE: 1 in = 20 ft
0
20 ft

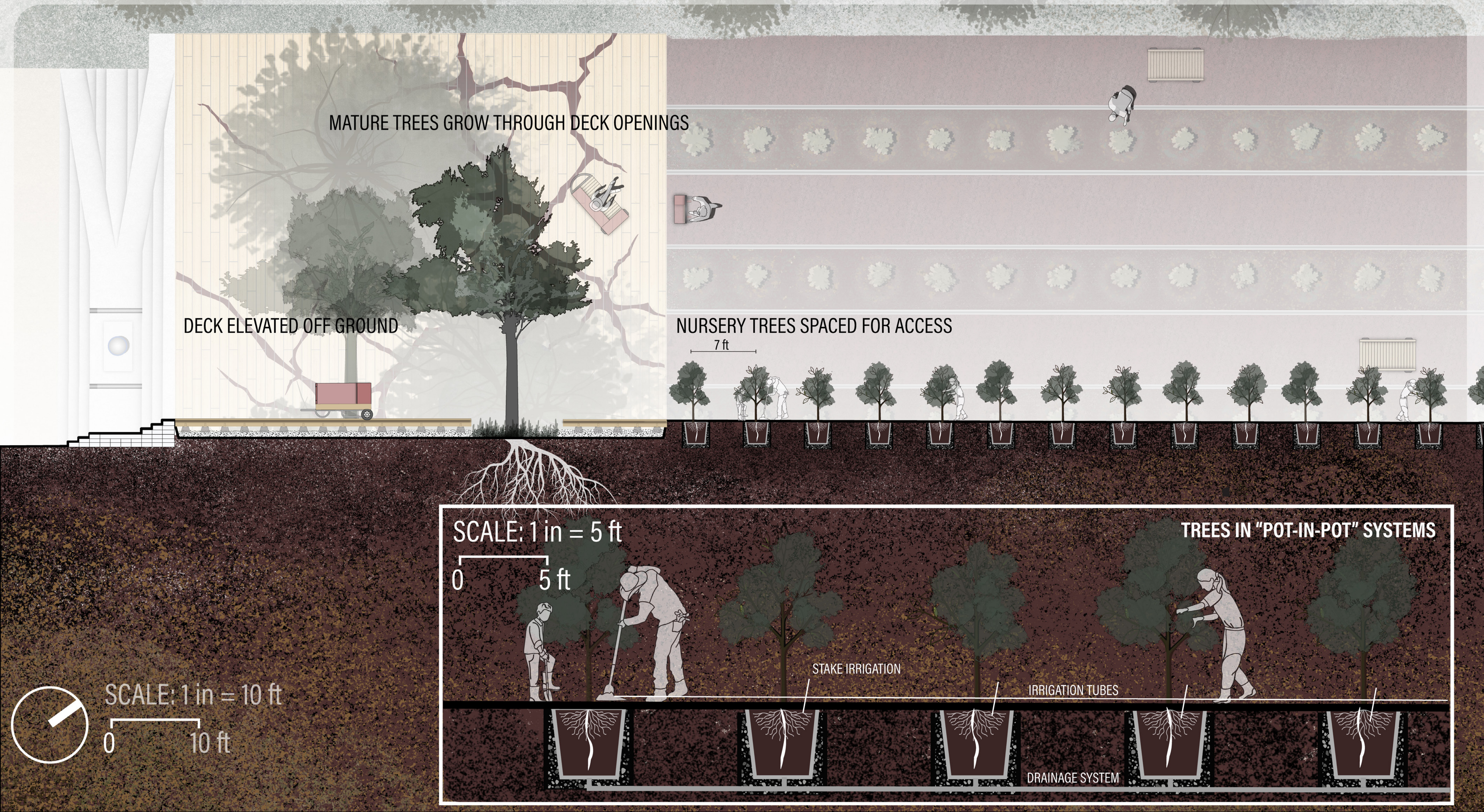
SITE GROUND PLAN


KINTSUGI POTTERY SCULPTURE
MOVABLE SITE FURNITURE
LOADING AREA
RAMP STAIR
CRACKED DECK
WATER CHANNELS
TREE NURSERY
REPAIR STATION
SCALE: 1 in = 20 ft
0
20 ft

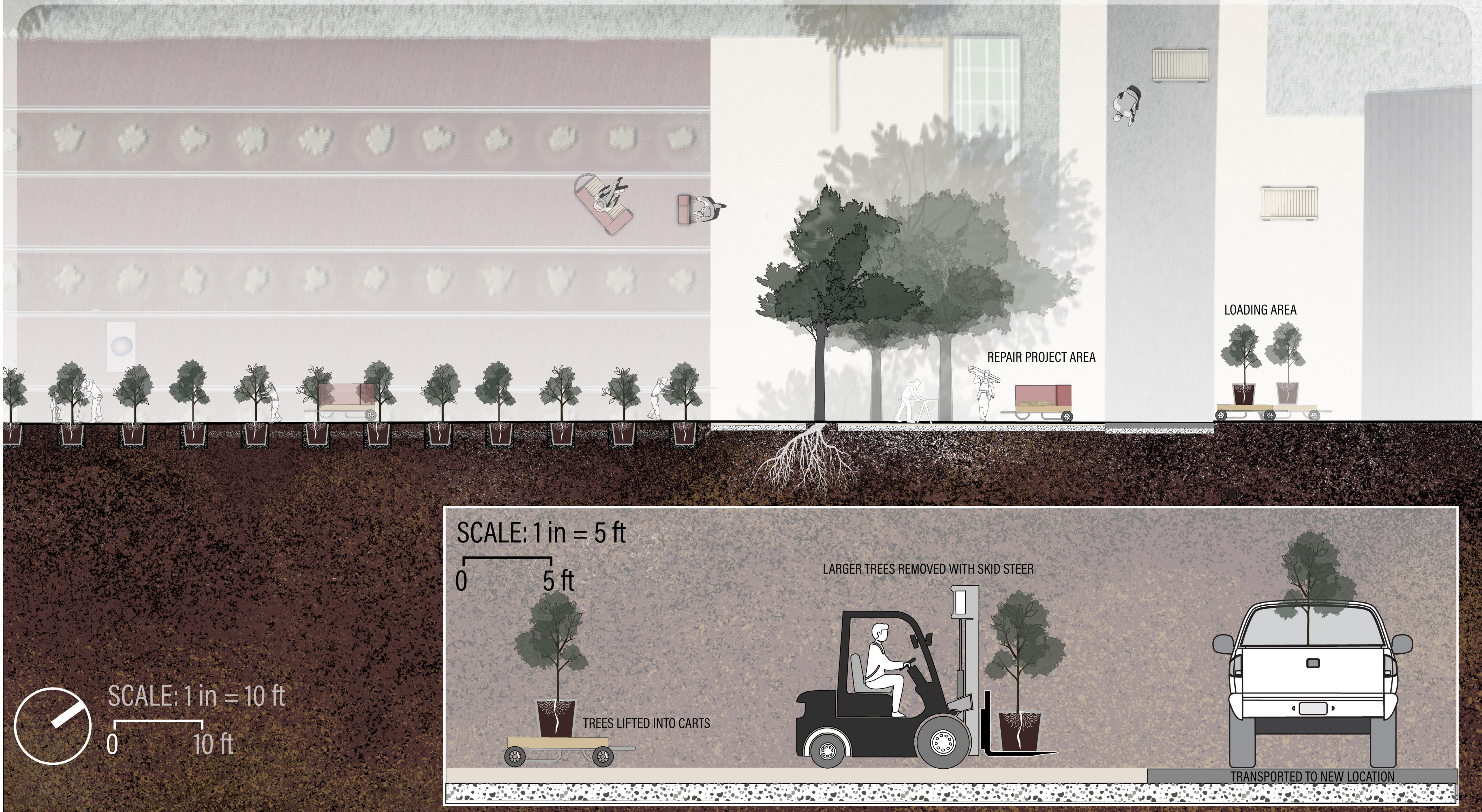
SITE GRADING PLAN


SCALE: 1 in = 20 ft
0
20 ft

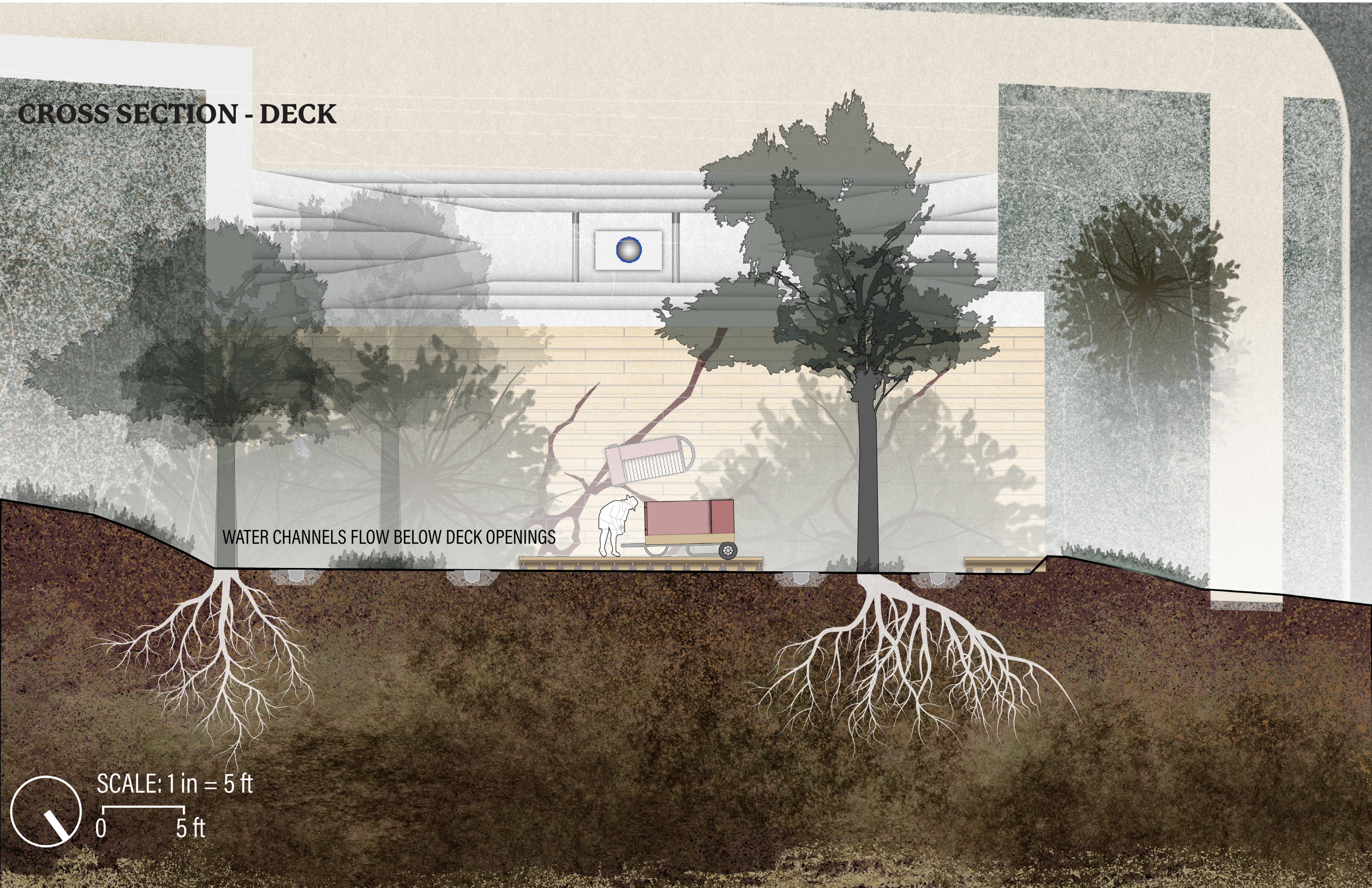
SITE PLAN/SECTION ENLARGEMENT - NURSERY + DECK


MATURE TREES GROW THROUGH DECK OPENINGS
DECK ELEVATED OFF GROUND
NURSERY TREES SPACED FOR ACCESS
7 ft
SCALE: 1 in = 5 ft
0
5 ft
TREES IN "POT-IN-POT" SYSTEMS
STAKE IRRIGATION
IRRIGATION TUBES
DRAINAGE SYSTEM
SCALE: 1 in = 10 ft
0
10 ft

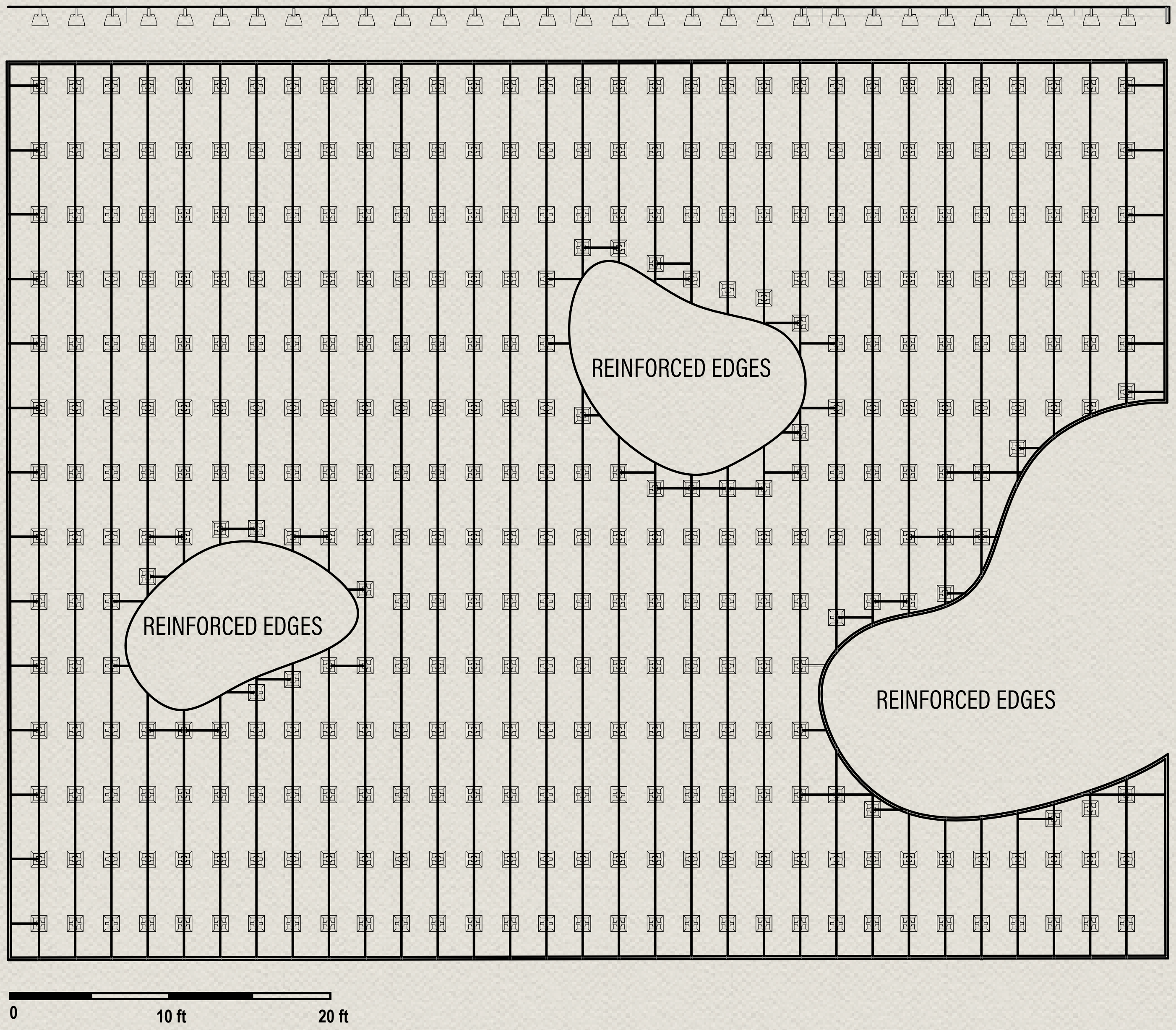
SITE PLAN/SECTION ENLARGEMENT - NURSERY + REPAIR AREA

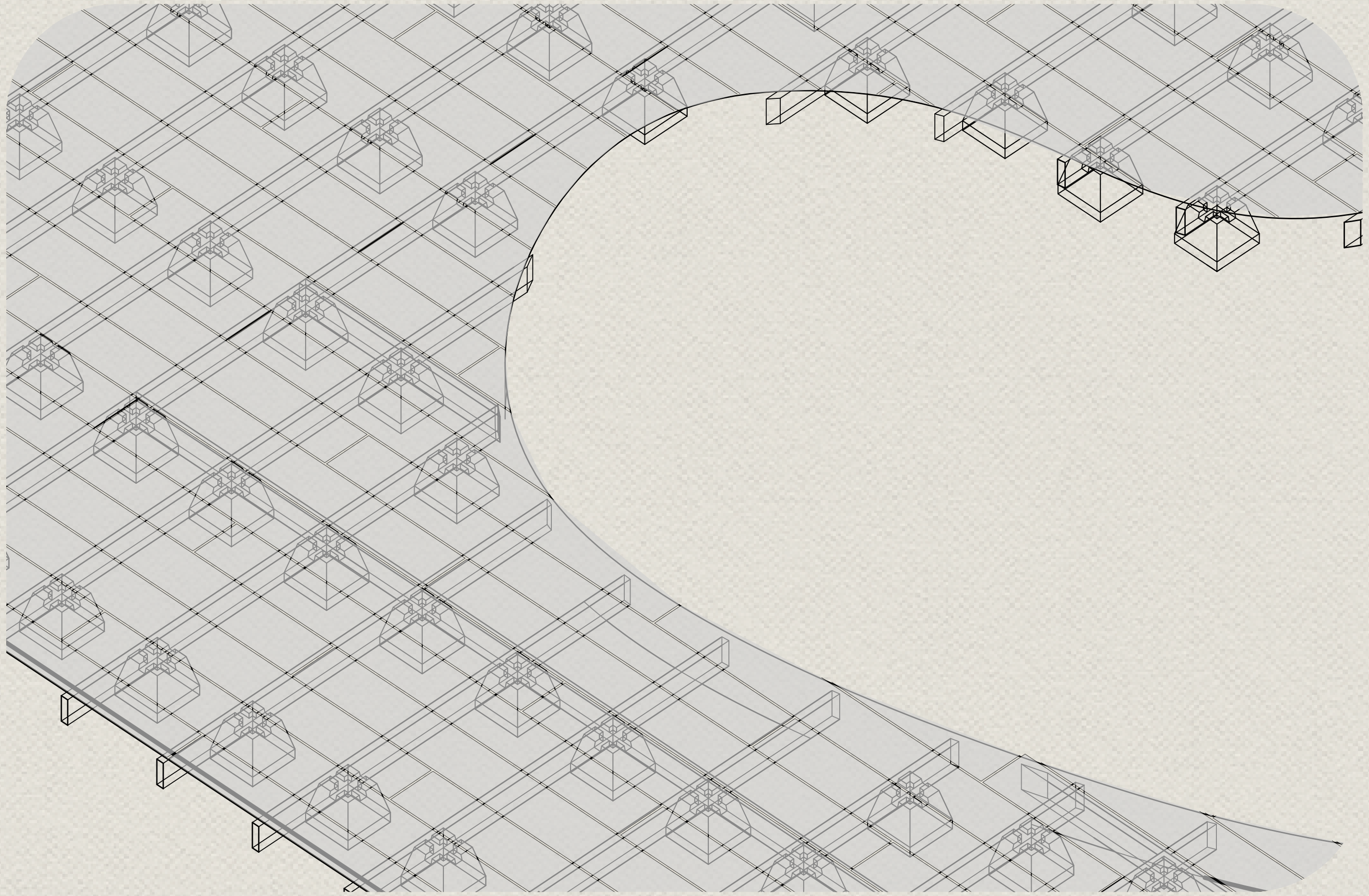

REPAIR PROJECT AREA
LOADING AREA
SCALE: 1 in = 10 ft
0
10 ft
SCALE: 1 in = 5 ft
0
5 ft
LARGER TREES REMOVED WITH SKID STEER
TREES LIFTED INTO CARTS
TRANSPORTED TO NEW LOCATION

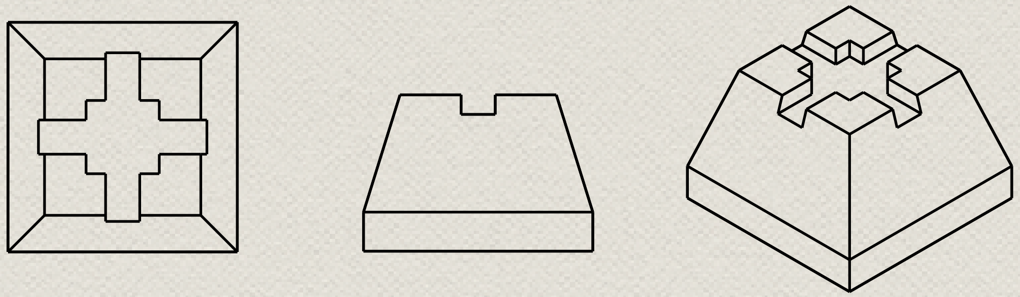
CROSS SECTION - DECK

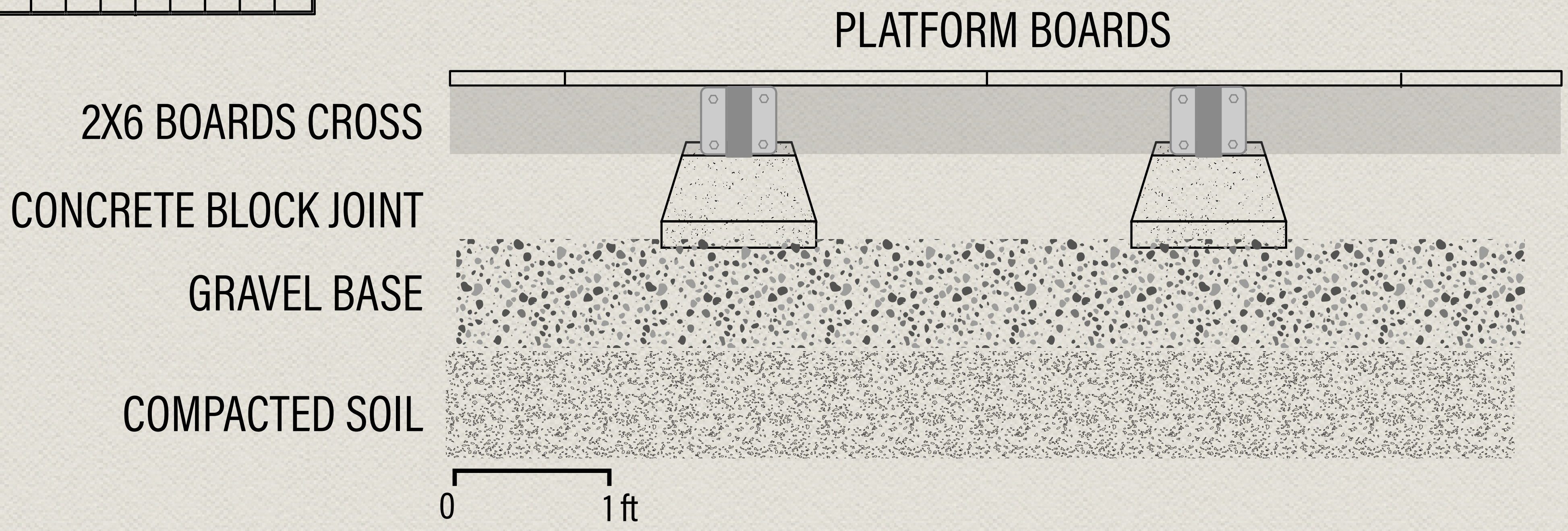


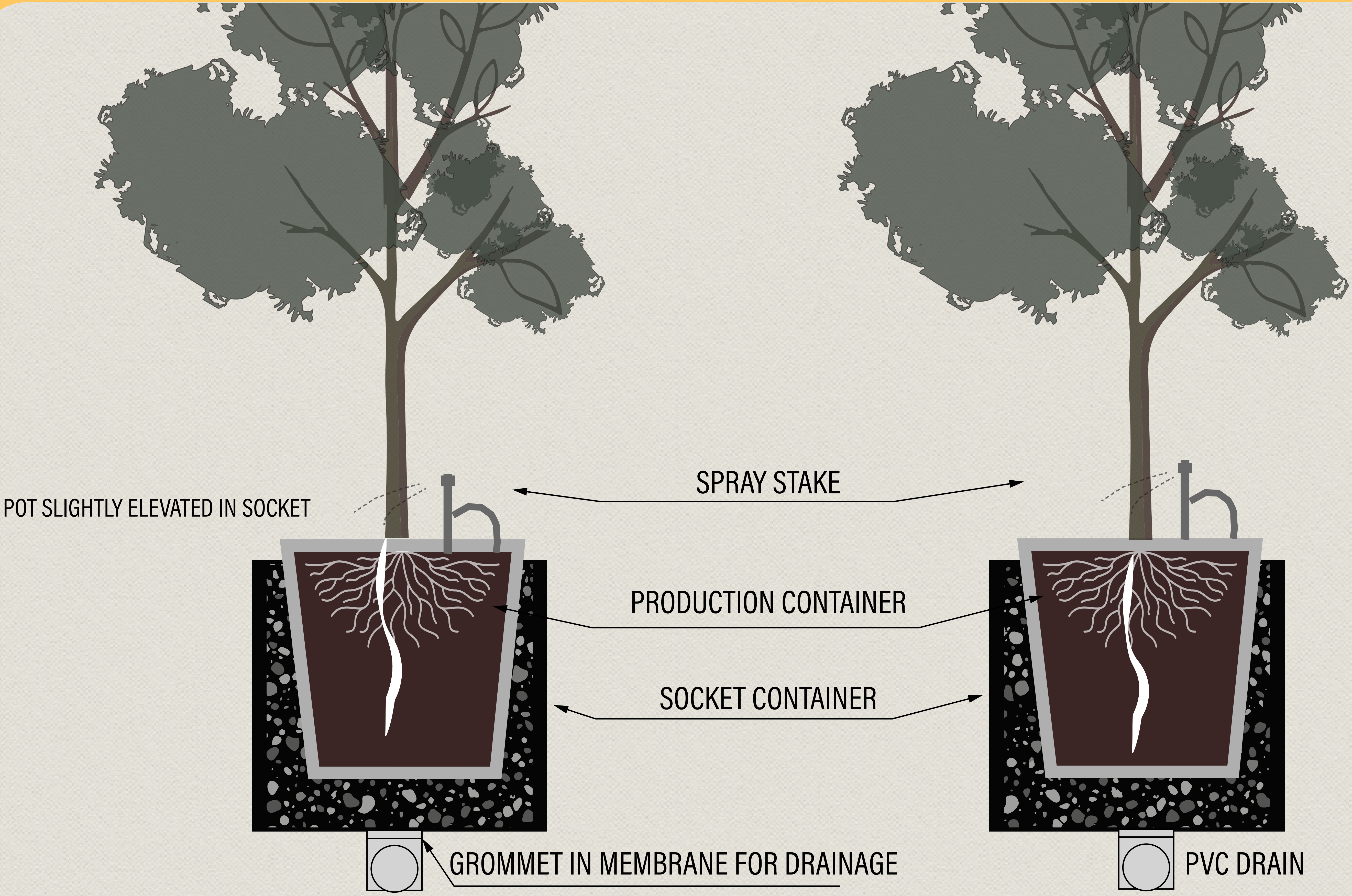
WATER CHANNELS FLOW BELOW DECK OPENINGS
SCALE: 1 in = 5 ft
0
5 ft


REINFORCED EDGES
REINFORCED EDGES
REINFORCED EDGES
0
10 ft
20 ft






PLATFORM BOARDS
2X6 BOARDS CROSS
CONCRETE BLOCK JOINT
GRAVEL BASE
COMPACTED SOIL
0
1 ft



POT SLIGHTLY ELEVATED IN SOCKET

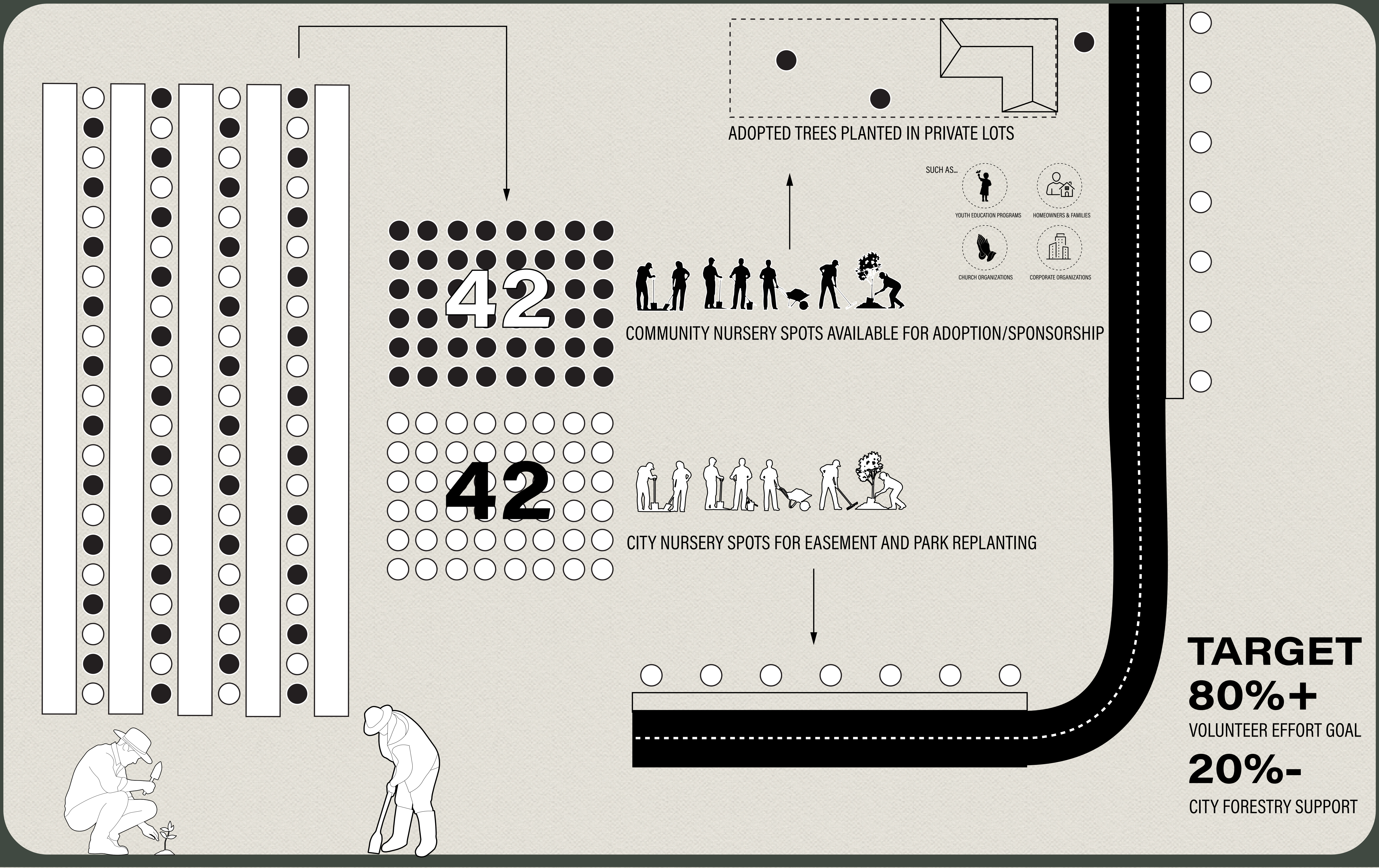
SPRAY STAKE

PRODUCTION CONTAINER

SOCKET CONTAINER

GROMMET IN MEMBRANE FOR DRAINAGE

PVC DRAIN



ADOPTED TREES PLANTED IN PRIVATE LOTS

SUCH AS...

YOUTH EDUCATION PROGRAMS

HOMEOWNERS & FAMILIES

CHURCH ORGANIZATIONS

CORPORATE ORGANIZATIONS

COMMUNITY NURSERY SPOTS AVAILABLE FOR ADOPTION/SPONSORSHIP

CITY NURSERY SPOTS FOR EASEMENT AND PARK REPLANTING

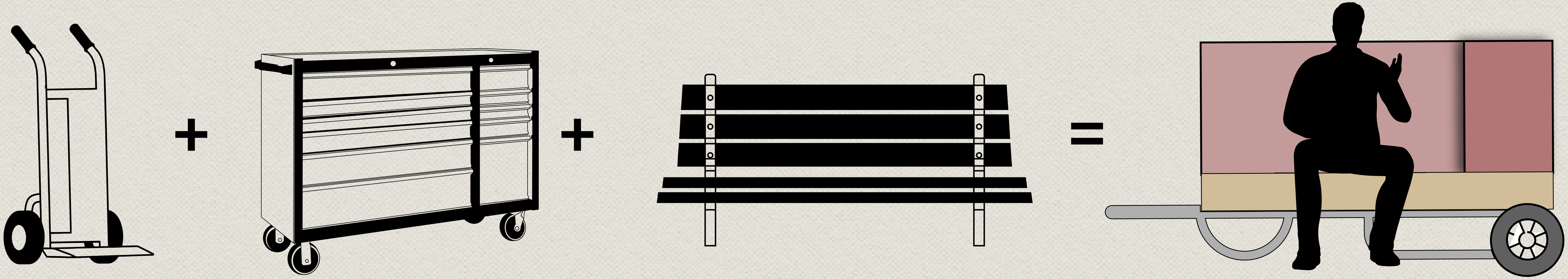
TARGET

80%+

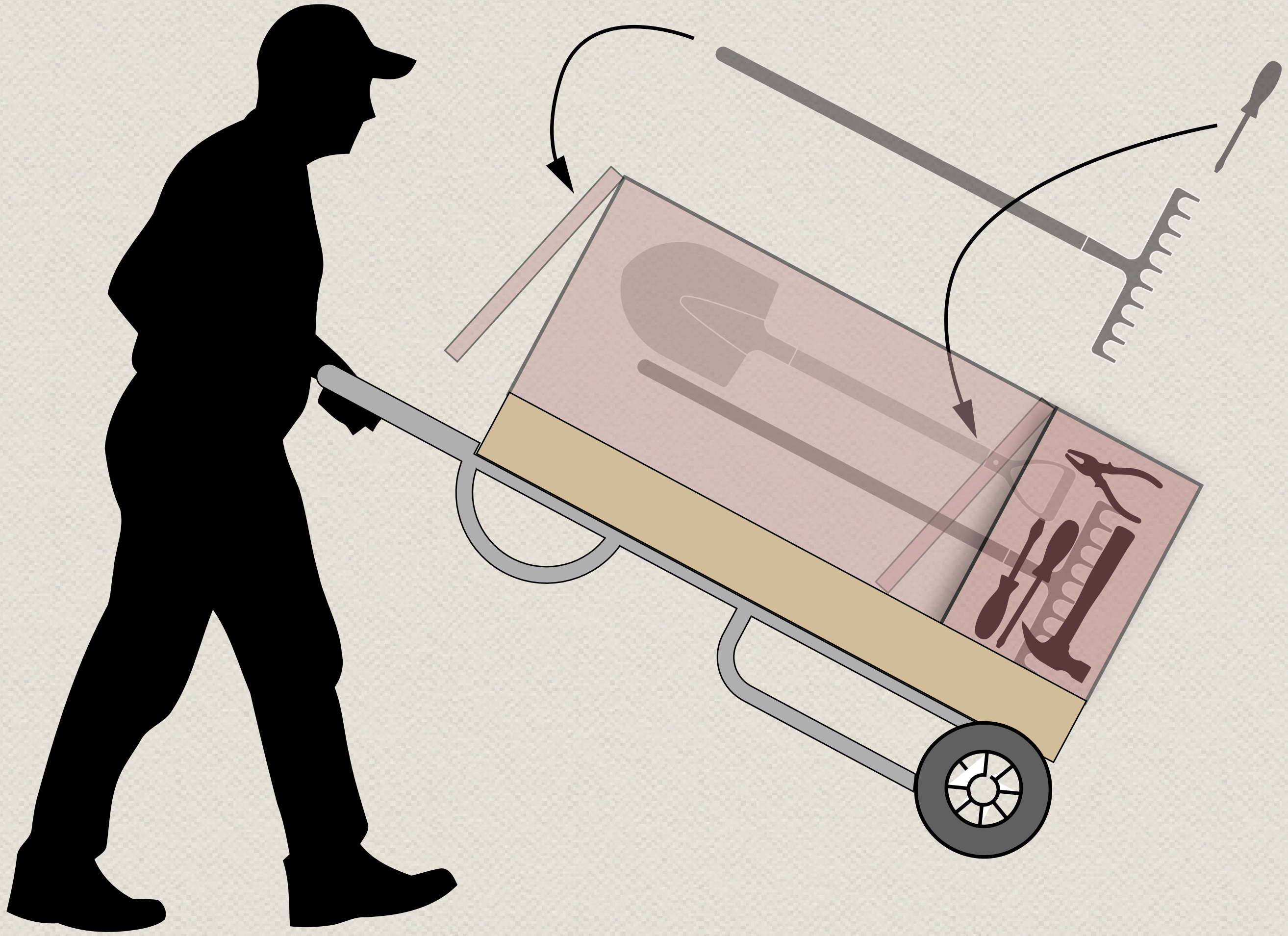
VOLUNTEER EFFORT GOAL

20%-

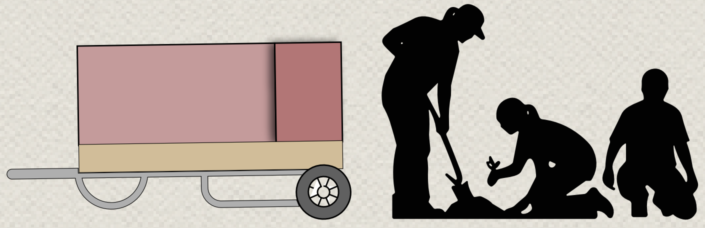
CITY FORESTRY SUPPORT

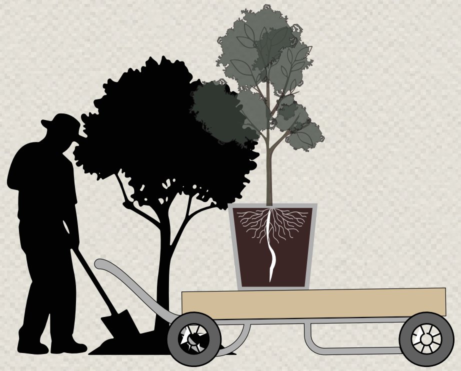


HAND TRUCK FURNITURE AND TOOL BOX FOR VOLUNTEERS

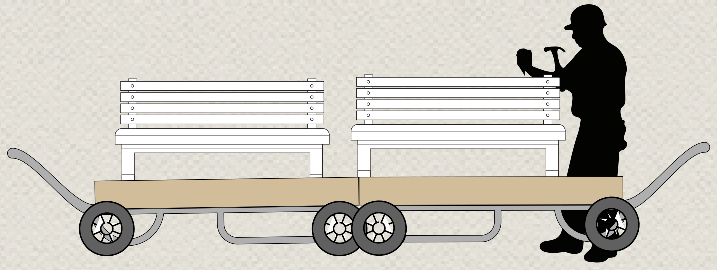


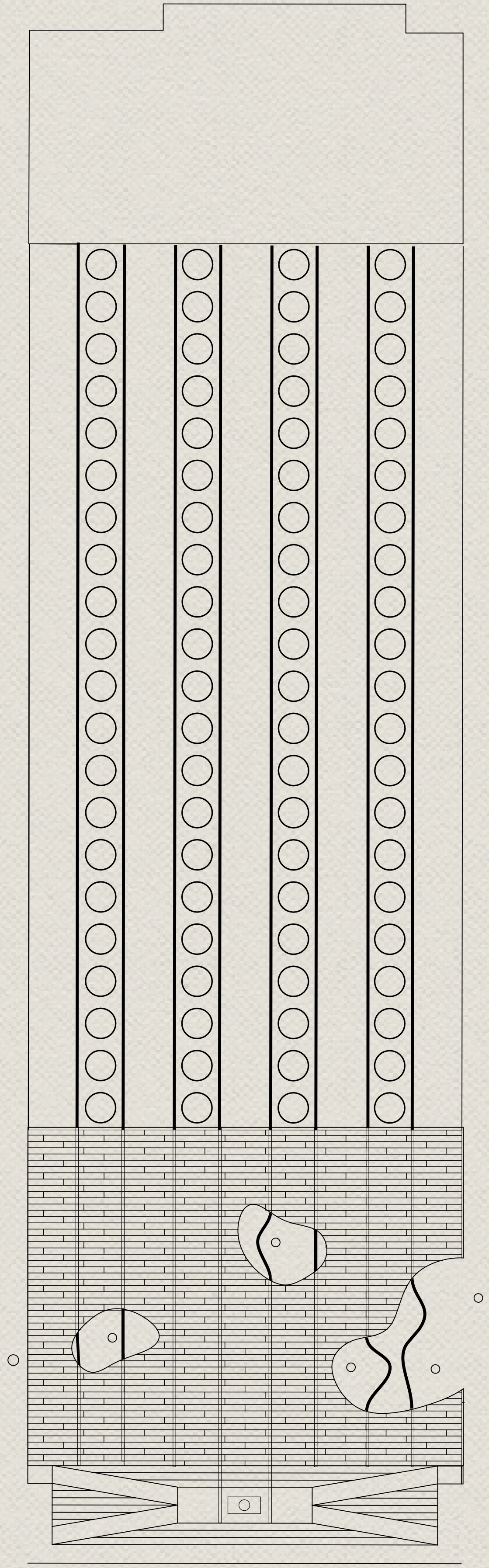
USED FOR MAINTAINING NURSERY PLANTINGS



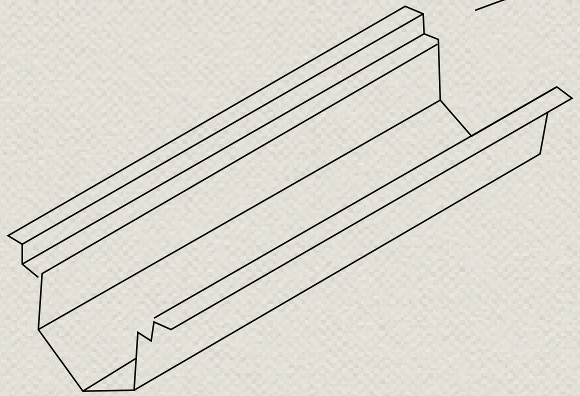


...OR FOR REPAIRING/MAKING
CONSTRUCTION PROJECTS FOR THE COMMUNITY

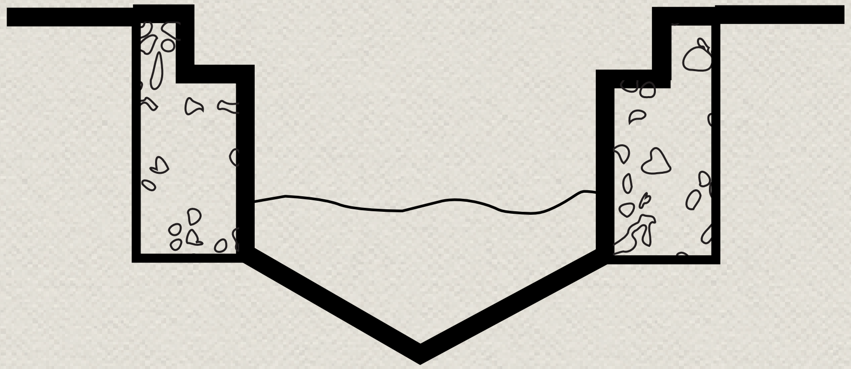




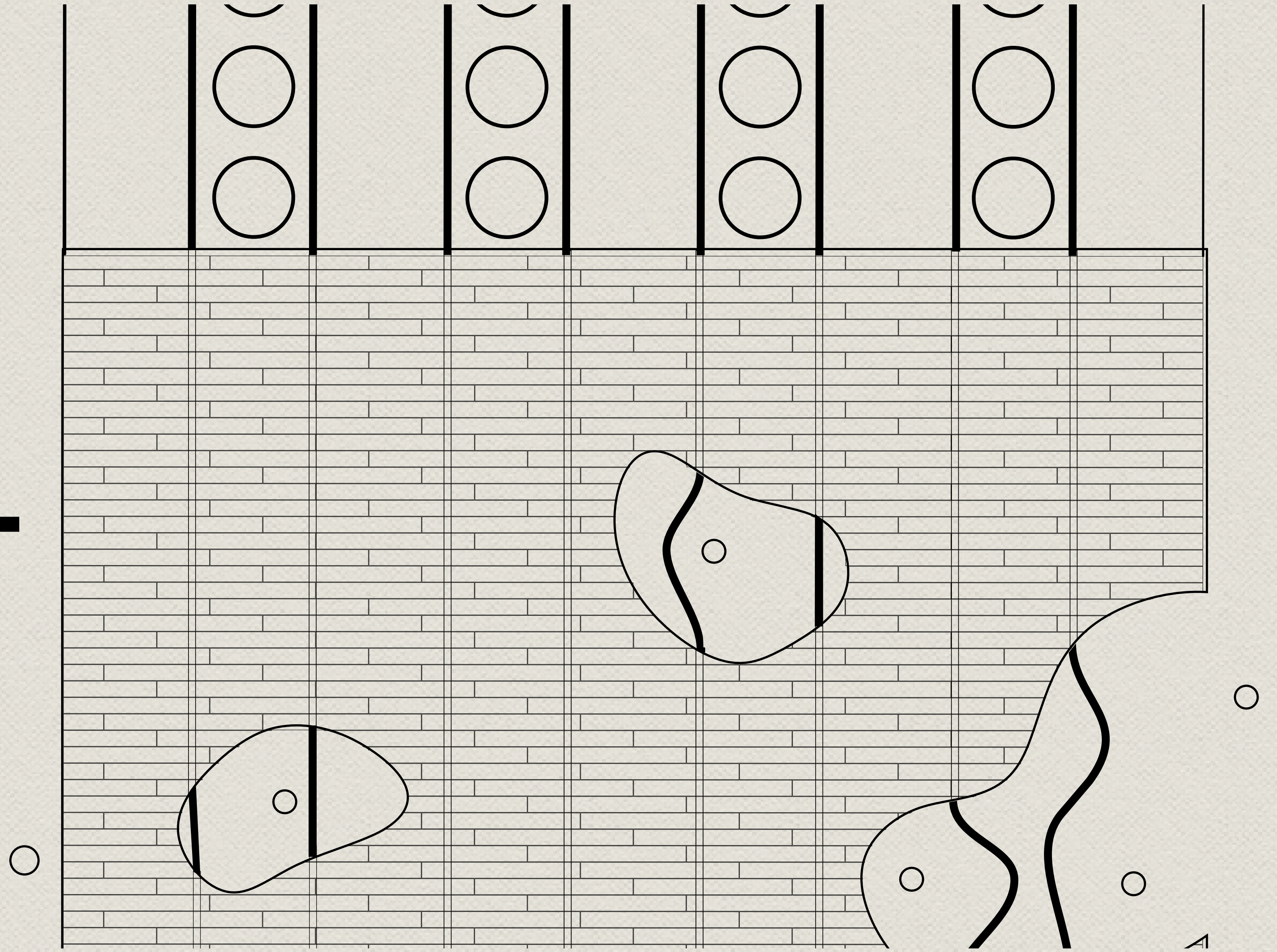
TRENCH ON BOTH SIDES OF PATHS

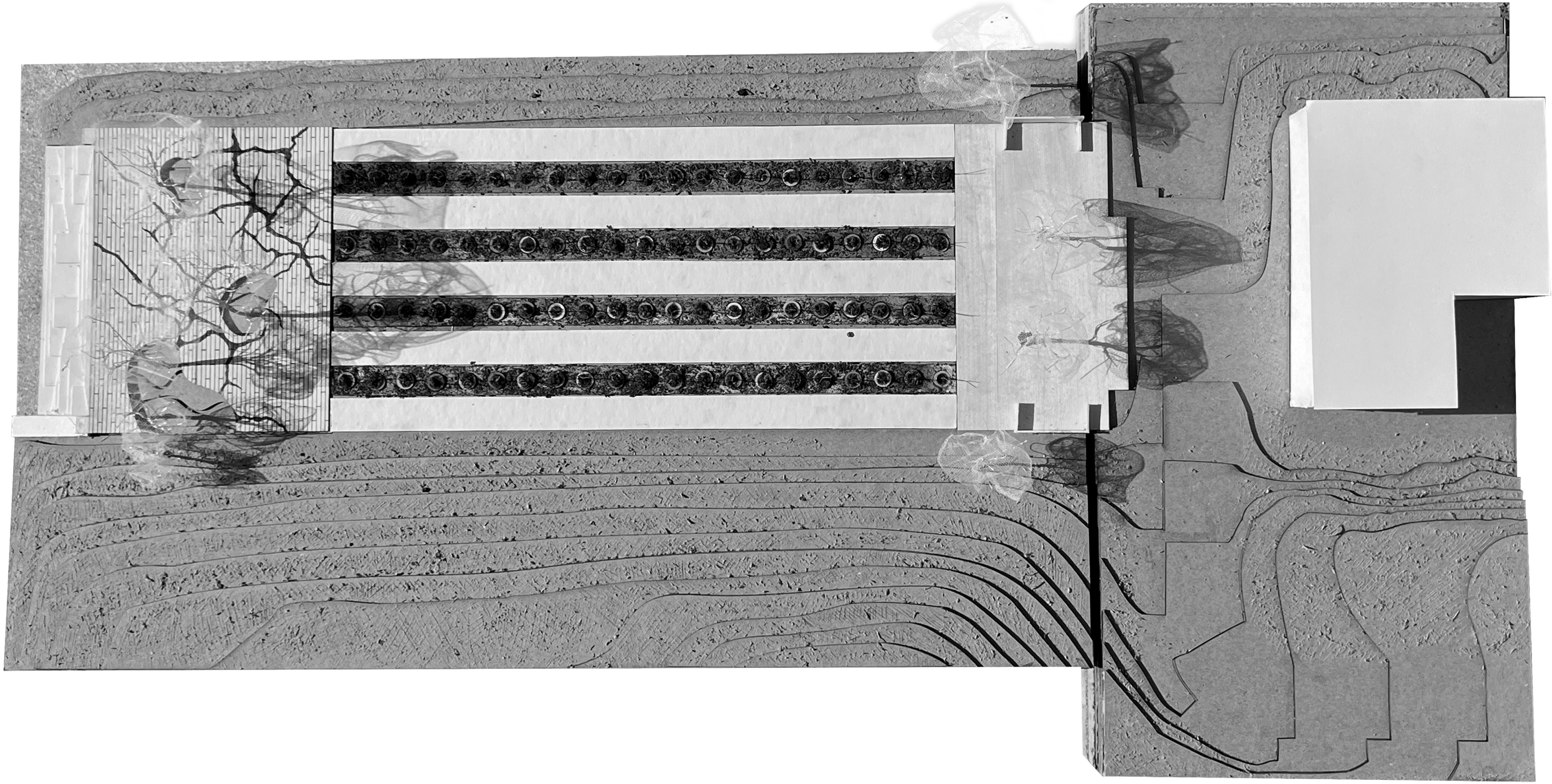
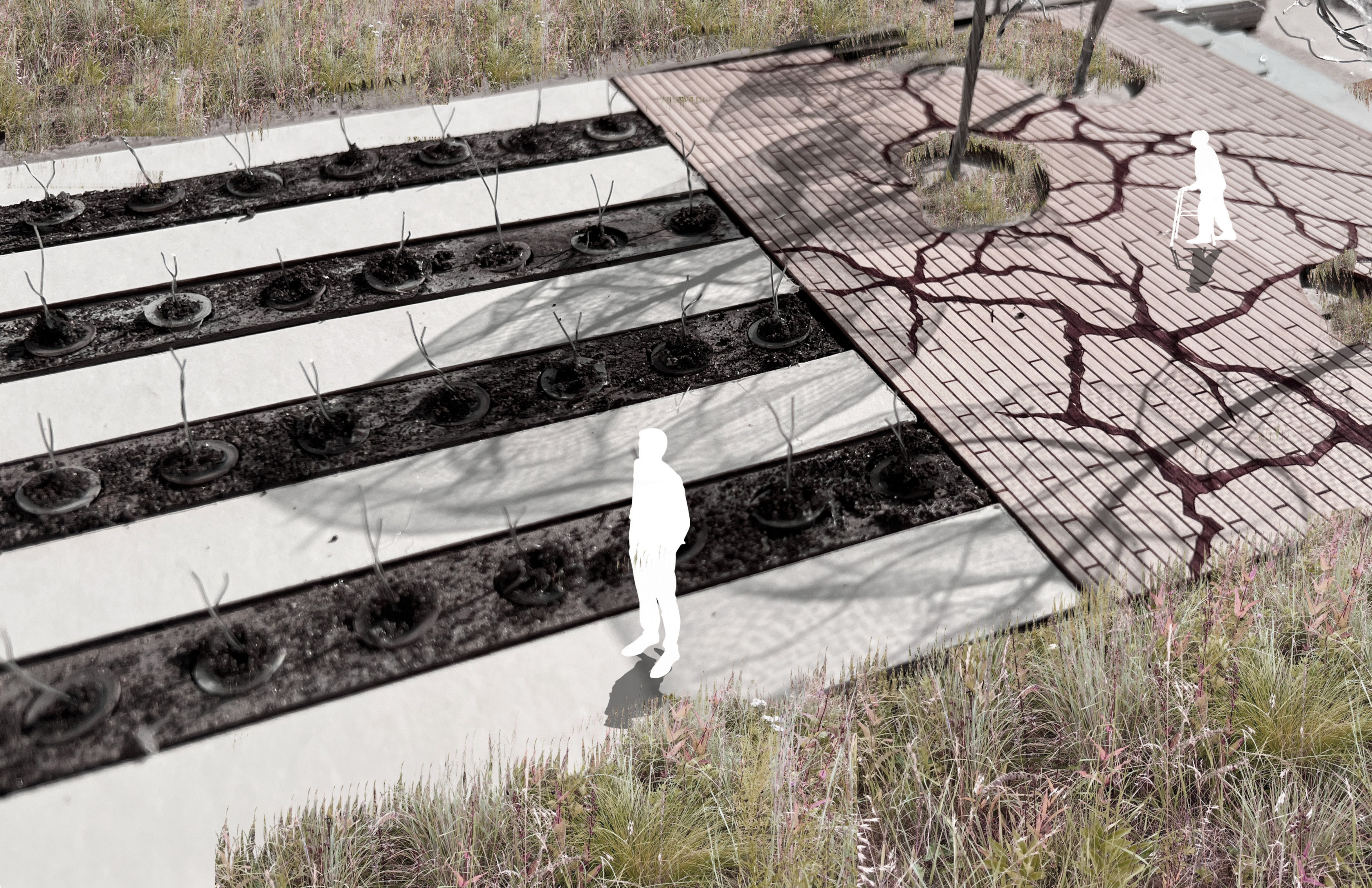


CONCRETE SIDING



STEEL



TRENCHES CYCLE WATER CONTINUOUSLY AND AVOID TREES